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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,001	03/11/2004	Hideshi Hattori	CU-3633	6288
26530	7590	02/06/2006	EXAMINER	
LADAS & PARRY LLP 224 SOUTH MICHIGAN AVENUE SUITE 1600 CHICAGO, IL 60604			LUM, LEON YUN BON	
			ART UNIT	PAPER NUMBER
			1641	

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/798,001	Applicant(s) HATTORI, HIDESHI	
	Examiner Leon Y. Lum	Art Unit 1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/15/04, 11/17/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The claim and specification amendments filed 17 November 2005 are acknowledged and have been entered.

Information Disclosure Statement

2. The information disclosure statement filed 17 November 2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. There is no copy of the foreign patent document JP 2002 274077. It has been placed in the application file, but the information referred to therein has not been considered.

In addition, since only the English abstracts for foreign patent documents JP 2002 249821 and JP 2002 153272 have been submitted, only the abstracts will be considered.

Furthermore, due to Applicant's statement in the response indicating that foreign patent document JP 2002 508837 contains the same disclosure as foreign patent document WO 9853304, which has already been considered, JP 2002 508837 is considered in this Office Action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 10-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 10 is vague and indefinite because it is unclear whether the “fine particle” (line 1) is part of the “anti-reflection layer” (line 2), in light of the specification. The specification only discloses the fine particles as physical structures that form the “fine uneven structure”, as claimed (line 3). See page 14, last paragraph to page 16, 1st paragraph. The specification does not describe the particles as forming any other part of the substrate or applied in any other manner except in the anti-reflection layer. However, as claimed, it is unclear whether the fine particle is part of the anti-reflection layer. If the instant claim is intended to indicate a difference between the fine particle and anti-reflection layer, the claim would therefore comprise new matter.

6. Claim 12 is vague and indefinite because it is unclear whether the “fine particle” (line 1) is part of the “anti-reflection layer” (line 2), in light of the specification. The specification only discloses the fine particles as physical structures that form the “fine porous”, as claimed (line 3). See page 16, 3rd paragraph to page 17, last paragraph.

Art Unit: 1641

The specification does not describe the particles as forming any other part of the substrate or applied in any other manner except in the anti-reflection layer. However, as claimed, it is unclear whether the fine particle is part of the anti-reflection layer. If the instant claim is intended to indicate a difference between the fine particle and anti-reflection layer, the claim would therefore comprise new matter.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 10-13 and 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Giaever (US 3,979,184) in light of Arnold (US 3,982,908).

Giaever reference teaches a diagnostic device having a substrate 10 (i.e. substrate), transparent layer 12, second transparent layer 13 (i.e. anti-reflection layer is formed on surface of the substrate), and biological particle layer 14 in succession, wherein the second transparent layer 13 comprises globules having a diameter of 200 Å to 5000 Å (i.e. fine particle having a particle diameter in the range of 80 nm to 250 nm; depth of from 80 nm to 250 nm). See column 2, lines 51-68; column 3, lines 32-47; column 4, lines 20-24; and Figure 1. In addition, Giaever teaches that the nature of the second transparent layer is discontinuous (i.e. uneven structure; fine porous structure).

Art Unit: 1641

See column 2, lines 61-63 and Figure 1. Furthermore, Giaever teaches that the biological particle layer can be antigen (i.e. probe biomolecule). See column 4, line 56 to column 5, line 10.

With respect to claims 12-13, Giaever does not explicitly teach that the second transparent layer is porous. However, it is well known in the coating arts that gold with a dimension of about 1 A to about 1000 A is naturally porous (see Arnold, column 2, lines 21-23 and lines 32-34). Since Giaever teaches that the second transparent layer can comprise gold in the form of globules having 200 A to 5000 A, one of ordinary skill in the art at the time of the invention would recognize that gold globules of 200A to 1000A, as taught by Giaever, would necessarily be porous.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

Art Unit: 1641

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giaever (US 3,979,184) in view of McGall et al (US 5,412,087).

Giaever reference has been disclosed above, but fails to teach that the probe biomolecules are immobilized in a pattern.

McGall et al reference teaches probes that are immobilized in an array, in order to attach different probes for a simultaneous, parallel assay to detect different targets, wherein the probes can be proteins and the targets can be antibodies. See column 4, lines 22 and 52-53; and column 11, lines 13-35.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Giaever with probes that are immobilized in an array, as taught by McGall et al, in order to attach different probes for a simultaneous, parallel assay to detect different targets. The advantage of being able to detect numerous targets simultaneously, as taught by McGall et al, is an effective means of performing many different assays at once, and provides motivation to combine the array format with the apparatus of Giaever. In addition, one of ordinary skill at the time of the invention would have had reasonable expectation of success in including an array format, as taught by McGall et al, in the apparatus of Giaever, since Giaever teaches that proteins can be immobilized to detect antibodies (see column 4, line 57 to column 5, line 10), and the probes of McGall et al are taught to include proteins that can bind specifically to antibodies.

12. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giaever (US 3,979,184) in view of Noblett (US 6,362,004 B1).

Giaever reference has been disclosed above, but fails to teach a mark formed on the substrate for positional detection.

Noblett reference teaches fiducial marks located on predetermined locations with respect to a microarray sample, in order to position and align the sample with greater precision for detection purposes. See abstract and column 3, lines 24-35.

It would have been obvious to one of ordinary skill in the art to modify the apparatus of Giaever with fiducial marks located on predetermined locations with respect to a microarray sample, as taught by Noblett, in order to position and align the sample with greater precision for detection purposes. The advantage or more accurate detection, as taught by Noblett, provides the motivation to combine the fiducial marks with the apparatus of Giaever. In addition, one of ordinary skill in the art at the time of the invention would have had reasonable expectation of success in including the fiducial marks, as taught by Noblett, in the apparatus of Giaever, since Giaever teaches that only a certain part of the substrate comprises immobilized antigen (see Giaever, column 4, lines 57-60), and the fiducial marks of Noblett provides a means to correctly locate the immobilized antigen.

Response to Arguments

13. Applicant's arguments with respect to claims 10-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon Y. Lum whose telephone number is (571) 272-2878. The examiner can normally be reached on weekdays from 8:00am-5:00pm.

Art Unit: 1641


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leon Y. Lum
Patent Examiner
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02/03/06